

Air We Breathe

Project Learning Tree Activity #72

Program of Studies

Science:

- S-6-SI-1 (Identify and refine questions that can be answered through scientific investigations combined with scientific information.)
- S-6-SI-2 (Use appropriate equipment (e.g., binoculars), tools (e.g., beakers), techniques (e.g. ordering), technology (e.g., calculators), and mathematics in scientific investigations.)
- S-6-SI-3 (Use evidence (e.g., orderings, organizations), logic, and scientific knowledge to develop scientific explanations.)
- S-6-SI-4 (Students will design and conduct different kinds of scientific investigations to answer different kinds of questions.)
- S-6-SI-5 (Communicate (e.g., speak, write) designs, procedures, and results of scientific investigations.)
- S-6-SI-6 (Review and analyze scientific investigations and explanations of other students.)
- S-6-AC-1 (Examine the interaction between science and technology.)
- S-6-AC-2 (Recognize how science is used to understand changes in populations, issues related to resources, and changes in environments.)
- S-7-SI-1 (Students will identify and refine questions that can be answered through scientific investigations combined with scientific information.)
- S-7-SI-2 (Students will use appropriate equipment (e.g., spring scales), tools (e.g., spatulas), techniques (e.g., measuring), technology (e.g., computers), and mathematics in scientific investigations.)
- S-7-SI-3 (Students will use evidence (e.g., measurements), logic, and scientific knowledge to develop scientific explanations.)
- S-7-SI-4 (Students will design and conduct different kinds of scientific investigations to answer different kinds of questions.)
- S-7-SI-5 (Students will communicate (e.g., write) designs, procedures, and results of scientific investigations.)
- S-7-SI-6 (Students will review and analyze scientific investigations and explanations of other students.)
- S-7-AC-1 (Students will use science to evaluate the risks and benefits to society for common activities (e.g., riding on airplanes, choice of habitation).)
- S-8-SI-1 (Identify and refine questions that can be answered through scientific investigations combined with scientific information.)
- S-8-SI-2 (Use appropriate equipment (e.g., barometers), tools (e.g., meter sticks), techniques (e.g., computer skills), technology (e.g., computers), and mathematics in scientific investigations.)
- S-8-SI-3 (Use evidence (e.g., computer models), logic, and scientific knowledge to develop scientific explanations.)

- S-8-SI-4 (Design and conduct different kinds of scientific investigations to answer different kinds of questions.)
- S-8-SI-5 (Communicate (e.g., write, graph) designs, procedures, and results of scientific investigations.)
- S-8-SI-6 (Students will analyze diversity and adaptations (e.g., changes in structure, behaviors, or physiology).)
- S-8-AC-2 (Examine the interaction between science and technology.)
- S-8-AC-3 (Recognize how science is used to understand changes in populations.)
- S-8-AC-5 (Students will use science to evaluate the risks and benefits to society for common activities (e.g., riding on airplanes, choice of habitation).)
- S-8-AC-6 (Students will describe the effects of science and technology (e.g., television, computers) on society.)
- S-8-AC-8 (Students will recognize that science is a process that generates conceptual understandings and solves problems.)

English Language Arts:

- ELA-6-R-1 (Students will identify meaning of a variety of reading materials, making connections to students' lives, to real world issues, and/or to current events.)
- ELA-6-R-3 (Students will respond to transactive reading materials (informational, practical/workplace, and persuasive), supporting ideas through summarizing and through identifying main ideas, details, and examples.)
- ELA-6-R-5 (Students will identify and apply logical sequence in reading materials to complete tasks or procedures.)
- ELA-6-W-1 (Students will respond to reading, listening, observing, and inquiry through applying writing-to-learn strategies in situations such as graphic organizers, note-taking, journals, and logs and writing-to-demonstrate-learning strategies in situations such as graphic organizers, open-response questions, and summaries.)
- ELA-6-SLO-3 (Students will apply organizational skills to prepare and deliver oral messages with and without technology.)
- ELA-6-SLO-4 (Students will apply listening, speaking, and observing skills to conduct authentic inquiry tasks and to create products.)
- ELA-6-T-1 (Use technology to access ideas and information for authentic tasks.)
- ELA-7-R-1 (Students will identify the meaning of a variety of reading materials, making connections to students' lives, to the real world, and/or to current events.)
- ELA-7-R-3 (Students will respond to and analyze transactive reading materials (informational, practical/ workplace, and persuasive) through raising and addressing questions, making predictions, drawing conclusions, solving problems, and summarizing information.)
- ELA-7-R-4 (Students will interpret and apply information in a variety of transactive reading materials to complete authentic tasks.)
- ELA-7-R-5 (Students will identify authors' positions, main ideas, and techniques of support in persuasive materials.)
- ELA-7-W-1 (Students will respond to reading, listening, observing, and inquiry through applying writing-to-learn strategies in situations such as graphic organizers, note taking, journals, and logs and writing-to-demonstrate-learning strategies in situations such as graphic organizers, open-response questions, and summaries.)

- ELA-7-SLO-1 (Students will adjust listening and observing strategies for specific situations and purposes (e.g., to follow directions, to acquire information, for entertainment, to complete a task).)
- ELA-7-SLO-2 (Students will apply organizational skills and delivery techniques to produce oral messages and products with and without technology.)
- ELA-7-SLO-3 (Students will apply listening, speaking, and observing skills to conduct authentic inquiry tasks and to create products.)
- ELA-7-I-1 (Students will develop effective questions to obtain ideas and information and access resources to address those questions.)
- ELA-7-I-3 (Students will follow a logical plan of inquiry to complete tasks.)
- ELA-7-T-1 (Students will use appropriate technology to access ideas and information for authentic tasks.)
- ELA-8-R-1 (Students will read and understand a variety of materials, making connections to students' lives, to real world issues, and/or to current events.)
- ELA-8-R-3 (Students will analyze transactive reading material (informational, practical/workplace, and persuasive) to create responses through addressing issues, confirming predictions, paraphrasing information to support ideas, and formulating/supporting opinions.)
- ELA-8-W-1 (Students will respond to materials read and concerns relevant to students' lives and the lives of others in society through applying writing-to-learn strategies and writing-to-demonstrate-learning strategies.)
- ELA-8-SLO-3 (Students will apply listening, speaking and observing skills to conduct authentic independent inquiry tasks in order to create products.)
- ELA-8-I-1 (Students will follow a logical, organized plan of inquiry to learn and to complete tasks.)
- ELA-8-I-3 (Students will create products by accessing a variety of appropriate personal, community, and/or global sources, both print and non-print.)
- ELA-8-T-1 (Students will use the most appropriate technology to access ideas and information for authentic tasks.)

Core Content

Science:

- SC-M-SI-1 (Refine and refocus questions that can be answered through scientific investigation combined with scientific information.)
- SC-M-SI-2 (Use appropriate equipment, tools, techniques, technology, and mathematics to gather, analyze, and interpret scientific data.)
- SC-M-SI-3 (Use evidence (e.g., computer models), logic, and scientific knowledge to develop scientific explanations.)
- SC-M-SI-4 (Design and conduct scientific investigations.)
- SC-M-SI-5 (Communicate (e.g., write, graph) designs, procedures, observations, and results of scientific investigations.)
- SC-M-SI-6 (Review and analyze scientific investigations and explanations of other students.)
- SC-M-AC-2 (Describe the individual's roles and responsibilities in the following areas: changes in populations, resources and environments including ecological crises and environmental issues, natural hazards, science and technology in society, and personal and societal issues about risks and benefits.)
- SC-H-SI-2 (Use equipment, tools, techniques, technology, and mathematics to improve scientific investigations and communications.)
- SC-H-SI-3 (Use evidence, logic, and scientific knowledge to develop and revise scientific explanations and models.)
- SC-H-SI-4 (Design and conduct different kinds of scientific investigations.)
- SC-H-SI-5 (Communicate and defend the designs, procedures, observations, and results of scientific investigations.)
- SC-H-SI-6 (Review and analyze scientific investigations and explanations of other investigators, including peers.)
- SC-H-AC-2 (Explore the impact of scientific knowledge and discoveries on personal and community health; recognize how science influences human population growth, use science to analyze the use of natural resources by an increasing human population; investigate how science can be used to solve environmental quality problems, use science to investigate natural and human-induced hazards; and analyze how science and technology are necessary but not sufficient for solving local, national, and global issues.)
- SC-H-2.1.1 (Earth systems have sources of energy that are internal and external to the Earth. The Sun is the major external source of energy. Two primary sources of internal energy are the decay of radioactive isotopes and the gravitational energy from Earth's original formation.)
- SC-H-2.2.2 (Movement of matter between reservoirs is driven by Earth's internal and external sources of energy. These movements are often accompanied by a change in physical and chemical properties of the matter. Carbon, for example, occurs in carbonate rocks such as limestone, in the atmosphere as carbon dioxide gas, in water as dissolved carbon dioxide, and in all organisms as complex molecules that control the chemistry of life.)

Writing:

- WR-M-1.4 (*Transactive writing* is informative/ persuasive writing that presents ideas and information for authentic audiences to accomplish realistic purposes like those students will encounter in their lives.)

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Reading:

- RD-M-x.0.9 (Reflect on and evaluate what is read.)
- RD-M-x.0.10 (Connect information from a passage to students' lives and/or real world issues.)
- RD-M-4.0.11 (Locate and apply information for a specific purpose (e.g., following directions, completing a task).)
- RD-M-4.0.12 (Identify the sequence of activities needed to carry out a procedure.)
- RD-M-4.0.13 (Explain how organizational patterns and/or text features (e.g., pictures, charts, graphs, format) relate to the content of a practical/workplace passage.)
- RD-H-2.0.13 (Analyze the content as it applies to students' lives and/or real world issues.)
- RD-H-4.0.08 (Identify essential information needed to accomplish a task.)
- RD-H-4.0.09 (Apply the information contained in practical/workplace materials.)
- RD-H-4.0.10 (Follow the sequence of information.)